



**GREENBLUM & BERNSTEIN, P.L.C.**  
**Intellectual Property Causes**  
**1950 Roland Clarke Place**  
**Reston, VA 20191**  
**(703) 716-1191**

AF / IFW  
 #

Attorney Docket No. P24099

**Mail Stop Amendment**

In re application of : M. YOSHINO et al.

Application No : 10/671,480

Group Art Unit: 3683

Filed : September 29, 2003

Examiner : Matthew GRAHAM

For : BRAKE SYSTEM AND BRAKE DEVICE FOR USE WITH  
 AUTOMOBILES

**Mail Stop Amendment**

Commissioner for Patents

U.S. Patent and Trademark Office

Customer Service Window, Mail Stop \_\_\_\_\_

Randolph Building

401 Dulany Street

Alexandria, VA 22314

Sir:

Transmitted herewith is an **Appeal brief under 37 C.F.R. § 41.37** in the above-captioned application.

☐ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a previously filed statement.

☐ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.

☐ An Information Disclosure Statement, PTO Form 1449, and references cited.

☐ No additional fee is required.

The fee has been calculated as shown below:

Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 2	*20	0	X25=	\$	x 50=	\$0.00
Indep. Claims: 1	**3	0	X100=	\$	X200=	\$0.00
Multiple Dependent Claims Presented			+180=	\$	+360=	\$0.00
Appeal Brief fee				\$		\$500.00
Total:				\$	Total:	\$500.00

☐ Please charge my Deposit Account No. 19-0089 in the amount of \$\_\_\_\_\_.

☒ A Check in the amount of **\$500.00** to cover the filing fee(s) is included.

☒ The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.

☒ Any additional filing fees required under 37 C.F.R. 1.16.

☒ Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of time fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 CFR 1.136)(a)(3).

Daniel B. Moon

Bruce H. Bernstein Reg. No. 48,214  
 Reg. No. 29,027

P24099.A05



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : M. YOSHINO et al.

Art Unit: 3683

Serial No : 10/671,480

Examiner: Matthew GRAHAM

Filed : September 29, 2003

For : BRAKE SYSTEM AND BRAKE DEVICE FOR USE WITH  
AUTOMOBILES

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Window, Mail Stop Appeal Brief - Patents  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Sir:

This appeal is from the decision of the Examiner finally rejecting claims 1 and 2 as set forth in the Final Official Action of September 17, 2004.

A Notice of Appeal in response to the Final Official Action of September 17, 2004 was filed on December 16, 2004. The two-month statutory period for response was set to expire on February 16, 2005. Further, the instant Appeal Brief is being submitted together with a check including the requisite fee under 37 C.F.R. § 41.20(b)(2) in the amount of \$500.00 for the filing of the Appeal Brief.

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However, if for any reason the necessary fee is inadequate or is not associated with this file, the Commissioner is authorized to charge the fee for the Appeal Brief and any necessary extension of time fees to Deposit Account No. 19-0089.

Appellants respectfully request that the decision of the Examiner to reject claims 1 and 2 as set forth in the Final Rejection be reversed and that the application be returned to the Examining Group for allowance.

**(1) REAL PARTY IN INTEREST**

The real party in interest is Sumitomo Electric Industries, Ltd., as established by an assignment submitted in parent U.S. Application No. 09/868,633 and recorded in the U.S. Patent and Trademark Office on September 10, 2001, at Reel 012155, Frame 0246.

**(2) RELATED APPEALS AND INTERFERENCES**

Appellants are presently not aware of any other appeals and/or interferences which will directly affect or be affected by or have a bearing on the Board's decision in the present Appeal.

**(3) STATUS OF THE CLAIMS**

Claims 1 and 2 are on appeal and stand finally rejected. A copy of claims 1 and 2 is attached as an Appendix to this brief.

Claims 1 and 2 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over YAGI et al. (U.S. Patent No. 5,273,348) in view of GRIFFIN (U.S. Patent No. 2,805,737).

**(4) STATUS OF THE AMENDMENTS**

No amendments to the claims were filed under 37 C.F.R. § 1.116 after the Final Official Action of September 17, 2004.

**(5) SUMMARY OF CLAIMED SUBJECT MATTER**

The summary below is intended as a nonlimiting example of the claimed invention, and no estoppel should be deemed to extend therefrom. As such, the following description is merely exemplary and is not a surrender of other aspects of the present invention that are also enabled by the present specification and that are directed to equivalent structures or methods.

An exemplary embodiment of the present invention is a braking system which includes a relief valve 116 and a return valve 117 in a passage between a master cylinder 2 and an auxiliary controller 81, as depicted in Figures 6 and 7a (page 39, line 6 through page 42, line 7). Appellants note that certain elements of the embodiment depicted in Figure 6 are discussed in other portions of the specification with reference to other embodiments, such as those depicted in Figures 1, 2 and 4.

Claim 1 includes a brake pedal 1, a master cylinder 2 holding a first braking liquid pressurized in accordance with a stroke of the brake pedal 1 stepped by a user, a pressure sensor 13 for detecting a first pressure of the first braking liquid to output a pressure signal (page 40, lines 10-18), an accumulator 36 for accumulating a second braking liquid pressurized by a pressurizing member 31, 32 (page 5, lines 14-19; page 6, line 16 through page 7, line 18), a proportional pressure controller 50, 60 for controlling the pressure of the

second braking liquid in the accumulator 36, and supplying the second braking liquid to a wheel 10 (page 9, line 17 through page 14, line 8), an auxiliary controller 81 connected to the proportional pressure controller 50, 60 (page 29, line 5 through page 30, line 7; page 40, lines 2-18), and a relief valve 116 and a return valve 117 intervened in a passage 75 in parallel between the master cylinder 2 and the auxiliary controller 81 (page 39, line 14 through page 40, line 18), the relief valve 116 allowing the first braking liquid having a pressure greater than a predetermined pressure to be guided from the master cylinder 2 into the auxiliary controller 81, and blocking the first braking liquid from the auxiliary controller 81 to the master cylinder 2, the return valve 117 allowing the first braking liquid from the auxiliary controller 81 to the master cylinder 2, and blocking the first braking liquid from the master cylinder 2 to the auxiliary controller 81, wherein the proportional pressure controller 50, 60 controls the pressure of the second braking liquid in the accumulator in accordance with the pressure signal, and in accordance with the first pressure of the first braking liquid guided into the auxiliary controller 81 (page 40, lines 10-14). Claim 2 recites that the auxiliary controller 81 has a spring 86 for returning the first braking liquid from the auxiliary controller 81 via the return valve 117 to the master cylinder 2 when the first pressure of the first braking liquid is released (page 30, lines 1-3; page 40, lines 15-18).

Accordingly, Appellants note that in the embodiment depicted in Figure 6, *the first braking liquid* travels between the master cylinder 2 and the auxiliary controller 81, and *the second braking liquid* travels between the accumulator 36 and the wheel 10. Appellants further note that in the embodiment depicted in Figure 6, *a relief valve* 116 and *a return valve*

117 are provided in a passage *between a master cylinder 2 and an auxiliary controller 81.*

**(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over YAGI et al. (U.S. Patent No. 5,273,348) in view of GRIFFIN (U.S. Patent No. 2,805,737).

**(7) ARGUMENT**

In the Final Official Action of September 17, 2004, the Examiner rejected claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over YAGI et al. in view of GRIFFIN. The Examiner stated the following:

“Yagi et al. show a braking system having brake pedal 1, master cylinder 2, pressure sensor 16, accumulator 7c, propodional [sic] controller 51, auxiliary controller (at 50) and wheel brake 3. The claimed invention differs from Yagi et al. only in the inclusion of two check valves. Griffin show check valves 10, 11 in line between the master cylinder and the brakes. It would have been obvious to one of ordinary skill in the ad [sic] to have included a check valve circuit, such as shown by Griffin, in line with the master cylinder so as to raise the brake pressure above the boiling point for high-temperature brakes as taught by Griffin, see column 2, lines 25-35. Re claim 2, note spring 57 in Yagi et al. . . . Contrary to Applicants’ contention, the second liquid in Yagi et al. is supplied to the wheel to the broad degree claimed in that the wheel is pressurized via slave cylinder 12.”

In the Advisory Action issued November 29, 2004, the Examiner maintained the rejection of claims 1 and 2 under 35 U.S.C. § 103(a).

Appellants respectfully traverse the rejection of claims 1 and 2 under 35 U.S.C. § 103(a), and request that the Board reverse the decision of the Examiner.

*Second Liquid Is Not Supplied To A Wheel In YAGI et al.*

Claim 1 recites, inter alia, “a master cylinder holding a first braking liquid pressurized in accordance with a stroke of the brake pedal stepped by a user; . . . an accumulator for accumulating a second braking liquid pressurized by a pressurizing member; a proportional pressure controller for controlling the pressure of the second braking liquid in the accumulator, and supplying the second braking liquid to a wheel”.

Appellants submit that YAGI et al. lacks any disclosure of a *second braking liquid* being supplied to a wheel, as recited in claim 1. In this regard, Appellants note that in the system of YAGI et al., the *second braking liquid* which is accumulated in accumulator 7c (as designated by the Examiner) is not supplied to a wheel by the proportional pressure controller 51 (as designated by the Examiner). Instead, only the *first braking liquid* from the master cylinder 2 is supplied to the braking system 3, via the master cylinder pressure supply lines 10, 11 (note Figure 1). Appellants note that the *second braking liquid* is supplied to the left chamber 122 of pressure multiplier unit 12 through inlet port 12a, and does *not* enter the right chamber 123, *nor* pass through outlet port 12b to supply line 11 (note column 6, lines 3-9;

column 7, lines 32-40). Accordingly, Appellants submit that the system disclosed in YAGI et al., in which *only* liquid from the master cylinder 2 is supplied to the wheel, is clearly different than the system recited in claim 1, in which a *separate* liquid from an accumulator is supplied to the wheel.

Appellants further submit that the Examiner's stated position that "the second liquid in YAGI et al. is supplied to the wheel to the broad degree claimed in that the wheel is pressurized via slave cylinder 12" is clearly untenable. In this regard, Appellants again note that only the *first braking liquid* from the master cylinder 2 is supplied to the braking system 3, via the master cylinder pressure supply lines 10, 11. Contrary to the Examiner's position, Appellants note that the *second braking liquid* which is accumulated in accumulator 7c (as designated by the Examiner) is not "supplied to a wheel" in any sense. Although the "pressure" of the second braking liquid may affect the "pressure" of the first braking liquid in the system of YAGI et al. via the pressure multiplier unit 12 (note, for example, column 5, lines 55-63; column 7, lines 24-40; column 9, lines 20-35), Appellants submit that the language of claim 1 clearly requires that the second braking liquid *itself* must be supplied to a wheel.

Appellants further submit that the recitation in claim 1 of the "proportional pressure controller . . . supplying the second braking liquid to a wheel" is clearly not a matter of "degree" as the Examiner has stated, but is instead a clearly recited feature of the claim which is not disclosed in YAGI et al. Accordingly, Appellants submit that there is no evidentiary support for the Examiner's statement that "the second liquid in YAGI et al. is



supplied to the wheel to the broad degree claimed”.

Accordingly, since YAGI et al. lacks any disclosure of the second braking liquid being supplied to a wheel, as recited in claim 1, and since the Examiner has provided no explanation regarding this missing feature, Appellants respectfully request that the Board reverse the decision of the Examiner.

*Not Obvious To Provide Relief Valve/Return Valve In YAGI et al.*

Claim 1 further recites, inter alia, “a relief valve and a return valve intervened in a passage in parallel between the master cylinder and the auxiliary controller; the relief valve allowing the first braking liquid having a pressure greater than a predetermined pressure to be guided from the master cylinder into the auxiliary controller, and blocking the first braking liquid from the auxiliary controller to the master cylinder; the return valve allowing the first braking liquid from the auxiliary controller to the master cylinder, and blocking the first braking liquid from the master cylinder to the auxiliary controller”.

Appellants submit that it would not have been obvious to one of ordinary skill in the art to provide a relief valve/return valve such as elements 9-11 of GRIFFIN in the system of YAGI et al. between the master cylinder 2 and the auxiliary controller 50 (as designated by the Examiner).

Appellants submit that such a modification would destroy the teachings of YAGI et al. itself relating to pressure control in the master cylinder pressure supply line 10. In this

regard, Appellants note that any introduction of such relief and return valves along the master cylinder pressure supply line 10 between the master cylinder 2 and the auxiliary controller 50 (as designated by the Examiner) in the system of YAGI et al. would alter the functional relationship between the master cylinder 2, the pressure control valve 5 and the pressure multiplier unit 12, and defeat the suggested benefit of such a structural arrangement as disclosed in YAGI et al. itself. For example, Appellants note that each of the master cylinder 2, the pressure control valve 5 and the pressure multiplier 12 affect the pressure in the master cylinder pressure supply lines 10, 11 in order to achieve specific cumulative control results (note, for example, column 13, lines 23-29). It is clear that providing such relief and return valves along the master cylinder pressure supply line 10 between the master cylinder 2 and the auxiliary controller 50 (as designated by the Examiner) would prohibit the interaction of these separate control elements (i.e., would prevent the cumulative pressure control taught by YAGI et al.). In other words, the introduction of such a relief valve/return valve in the system of YAGI et al. would destroy the benefits of the interrelated control provided by the aforesaid elements.

Appellants further submit that the Examiner has provided no valid statement of motivation for one of ordinary skill in the art to provide a relief valve/return valve such as elements 9-11 of GRIFFIN in the system of YAGI et al. between the master cylinder 2 and the auxiliary controller 50 (as designated by the Examiner). Appellants submit that the Examiner's stated reasons for such a modification (i.e., "to raise the brake pressure above the boiling point for high-temperature brakes as taught by Griffin, see column 2, lines 25-35.")

is clearly not a valid or justifiable motivation for providing such relief and return valves in the master cylinder pressure supply line 10 of YAGI et al. between the master cylinder 2 and the auxiliary controller 50 (as designated by the Examiner).

In this regard, Appellants submit that GRIFFIN appears to disclose the provision of such relief and return valves 10, 11 immediately upstream of wheels 5, 6, (where friction and heat would be a valid concern) rather than between a master cylinder 1 and downstream pressure controllers 15, 16 (note Figure 1; column 1, lines 29-65; column 2, lines 25-35). Appellants note that GRIFFIN discloses positioning the relief and return valves 10, 11 downstream of cylinder 16 and vacuum servo unit 15 which control the fluid pressure (note Fig. 1; column 2, lines 36-41), rather than between the master cylinder 1 and such downstream pressure controllers 15, 16. GRIFFIN only discloses positioning a valve unit 9A adjacent to a master cylinder 1 if such downstream pressure controllers 15, 16 are not provided (note Fig. 1; column 2, lines 41-45). Accordingly, Appellants submit that the teachings of GRIFFIN could not possibly be viewed as providing motivation for one of ordinary skill in the art to provide relief and return valves in an upstream position between the master cylinder 2 and the auxiliary controller 50 (as designated by the Examiner) in the system of YAGI et al.

Accordingly, Appellants submit that there is nothing in the cited prior art that would lead one of ordinary skill in the art to make the modification suggested by the Examiner. The only reason to combine the teachings of YAGI et al. and GRIFFIN results from a review of Appellants' disclosure and the application of impermissible hindsight. Thus, Appellants

submit that the modification suggested by the Examiner is clearly the result of impermissible hindsight reasoning, based upon the disclosure of the present application, rather than the teachings of the references themselves.

Accordingly, Appellants submit that the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) is improper at least for each and certainly for all of the above reasons. Appellants respectfully request that the Board reverse the decision of the Examiner to reject claims 1 and 2 under 35 U.S.C. § 103(a).

**(8) CONCLUSION**

Appellants respectfully submit that the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) over YAGI et al. and GRIFFIN is improper at least for each and certainly for all of the above reasons. Accordingly, Appellants respectfully request that the Board reverse the decision of the Examiner to reject claims 1 and 2 under 35 U.S.C. § 103(a), and to remand the application to the Examiner for allowance.

Appellants respectfully submit that each and every pending claim of the present application meets the requirement for patentability under 35 U.S.C. § 103(a), and that the present application and each pending claim are allowable over the prior art of record.

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Should there be any questions, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
M. YOSHINO et al.



Bruce H. Bernstein  
Reg. No. 29,027

**Daniel B. Moon**  
**Reg. No. 48,214**

February 14, 2005  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191



## CLAIMS APPENDIX

1. (Original) A braking system comprising:

a brake pedal;

a master cylinder holding a first braking liquid pressurized in accordance with a stroke of the brake pedal stepped by a user;

a pressure sensor for detecting a first pressure of the first braking liquid to output a pressure signal;

an accumulator for accumulating a second braking liquid pressurized by a pressurizing member;

a proportional pressure controller for controlling the pressure of the second braking liquid in the accumulator, and supplying the second braking liquid to a wheel;

an auxiliary controller connected to the proportional pressure controller; and

a relief valve and a return valve intervened in a passage in parallel between the master cylinder and the auxiliary controller;

the relief valve allowing the first braking liquid having a pressure greater than a predetermined pressure to be guided from the master cylinder into the auxiliary controller, and blocking the first braking liquid from the auxiliary controller to the master cylinder;

the return valve allowing the first braking liquid from the auxiliary controller to the master cylinder, and blocking the first braking liquid from the master cylinder to the auxiliary controller;

wherein the proportional pressure controller controls the pressure of the second braking liquid in the accumulator in accordance with the pressure signal, and in accordance with the first pressure of the first braking liquid guided into the auxiliary controller.

2. (Original) The braking system according to Claim 1, wherein the auxiliary controller has a spring for returning the first braking liquid from the auxiliary controller via the return valve to the master cylinder when the first pressure of the first braking liquid is released.